Amoco Oil Company
200 East Randolph Drive
Post Office Box 6110A
Chicago, Illinois 60680

Certified Mail No. P 654 589 057
Return Receipt Requested

July 31, 1985

Mr. Mark Haney, Manager
Facilities Compliance Unit
Compliance Monitoring Section
Division of Land Pollution Control
Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, Illinois 62706

Re: 1191150006 - Madison County
Wood River/Amoco-Riverfront
Wood River/Amoco-Main Plant
Subpart F Groundwater Monitoring

Dear Mr. Haney:

Your May 17, 1985, letter to us regarding groundwater monitoring at our Wood River Riverfront and Main Plant facilities requested that we submit the upper groundwater table elevation data obtained in recent months and an interpretation of that data including a potentiometric map indicating the groundwater flow direction. Our June 6 letter in response provided the upper groundwater table elevation data and indicated that the interpretation of the data would be supplied by July 31. Attached is the requested interpretation provided by our Groundwater Management Section.

If, after your review of the submission, you would like to discuss it, we would be glad to meet with you at your convenience. Please call me at 312/856-5858 if you have any questions or would like to suggest such a meeting.

G. J. Wurtz
Environmental Consultant
Mail Code 1203

GJW:gw

Attachment

CR

Amoco Corporation

Box 3385 (Research Center)
4502 East 41st Street
Tulsa, Oklahoma 74102

Environmental and Energy Conservation
Division of Environmental Affairs and
Safety Department
918-660-3218

Gene W. Schmidt
Director, Groundwater Management

July 31, 1985

GMS 85-406

Greg Wurtz
Amoco Oil Company
200 E. Randolph Drive, M/C 1203
Chicago, IL 60601

Subject: Maps of Upper Groundwater Table, Former Amoco Refinery, Wood River, Illinois

Attached are maps showing configurations of the upper groundwater table at the riverfront and spray pond areas for each monthly measurement period. The monthly data were collected and maps constructed to be used to determine the hydraulic gradient and flow direction of groundwater in the shallow, perched zone above the principal aquifer, as requested by the Illinois Environmental Protection Agency (IEPA).

As previously reported by the Groundwater Management Section (GMS 84-853), the shallow water table is not a continuous surface. Several observation wells in the riverfront area were dry during some or all measurements, indicating that the shallow water was not present in the vicinity of the well. However, the shallow water table was considered continuous and the dry wells disregarded in the construction of the maps so that a general groundwater flow direction could be estimated.

The maps of the riverfront area show that the hydraulic gradient of the shallow water table generally is toward the east-northeast. Differences in water table configuration between maps reflect the large fluctuations in river stage and recharge from lagoon seepage.

In the spray pond area, the shallow groundwater table gradient generally is toward the south and west-southwest. The water level in observation well H-38 was anomalously high during some measurements. The well is located between and close to two of the ponds, and the water level probably reflects the level in the ponds rather than the shallow water table elevation to the east. Therefore, on most maps, the water level elevation in H-38 does not fit within the nearest contour lines. The large changes

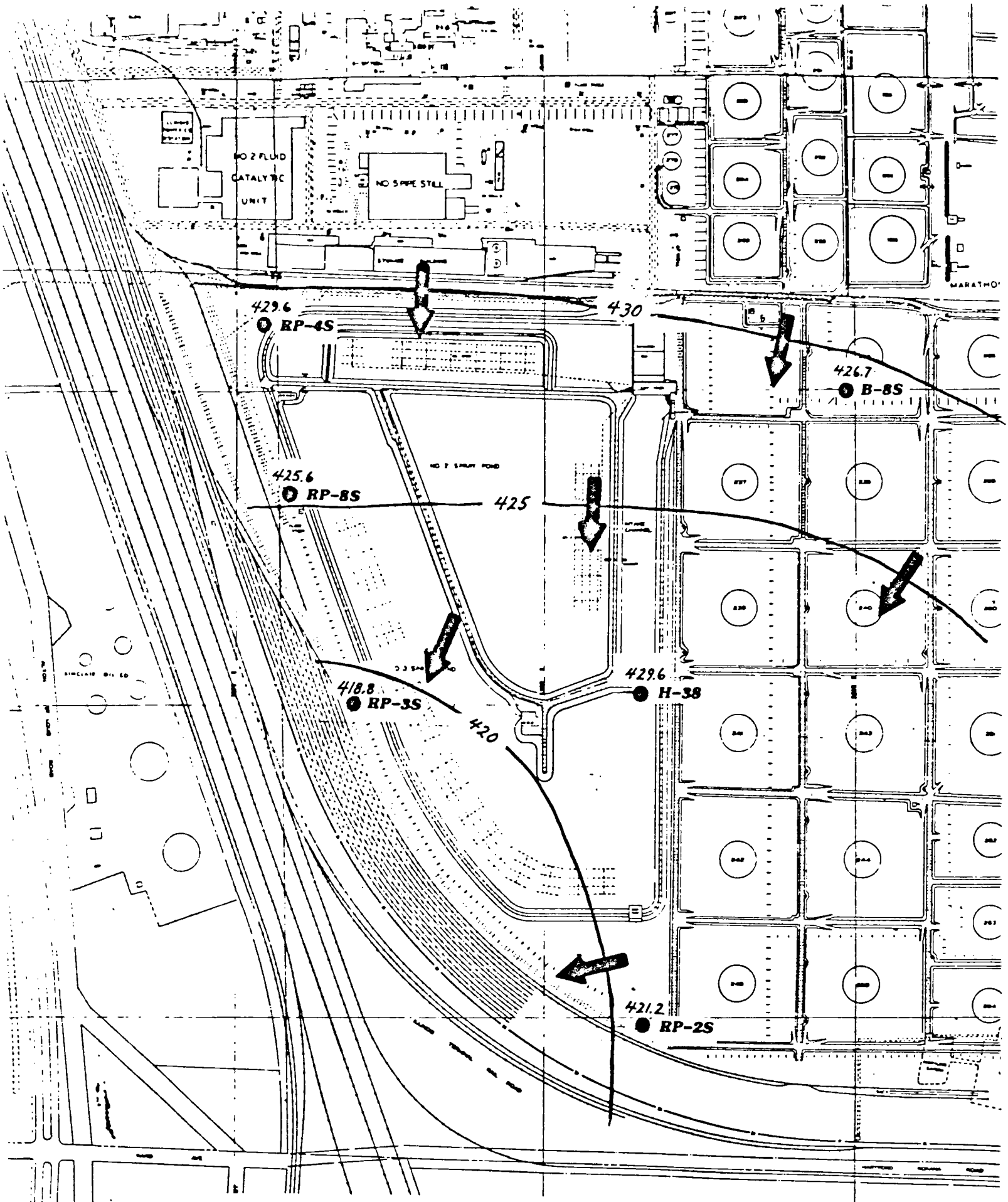
in water levels in other wells in the spray pond area from one measurement to the next show the dependence of the shallow groundwater table on river stage and recharge events.

M S Johnson

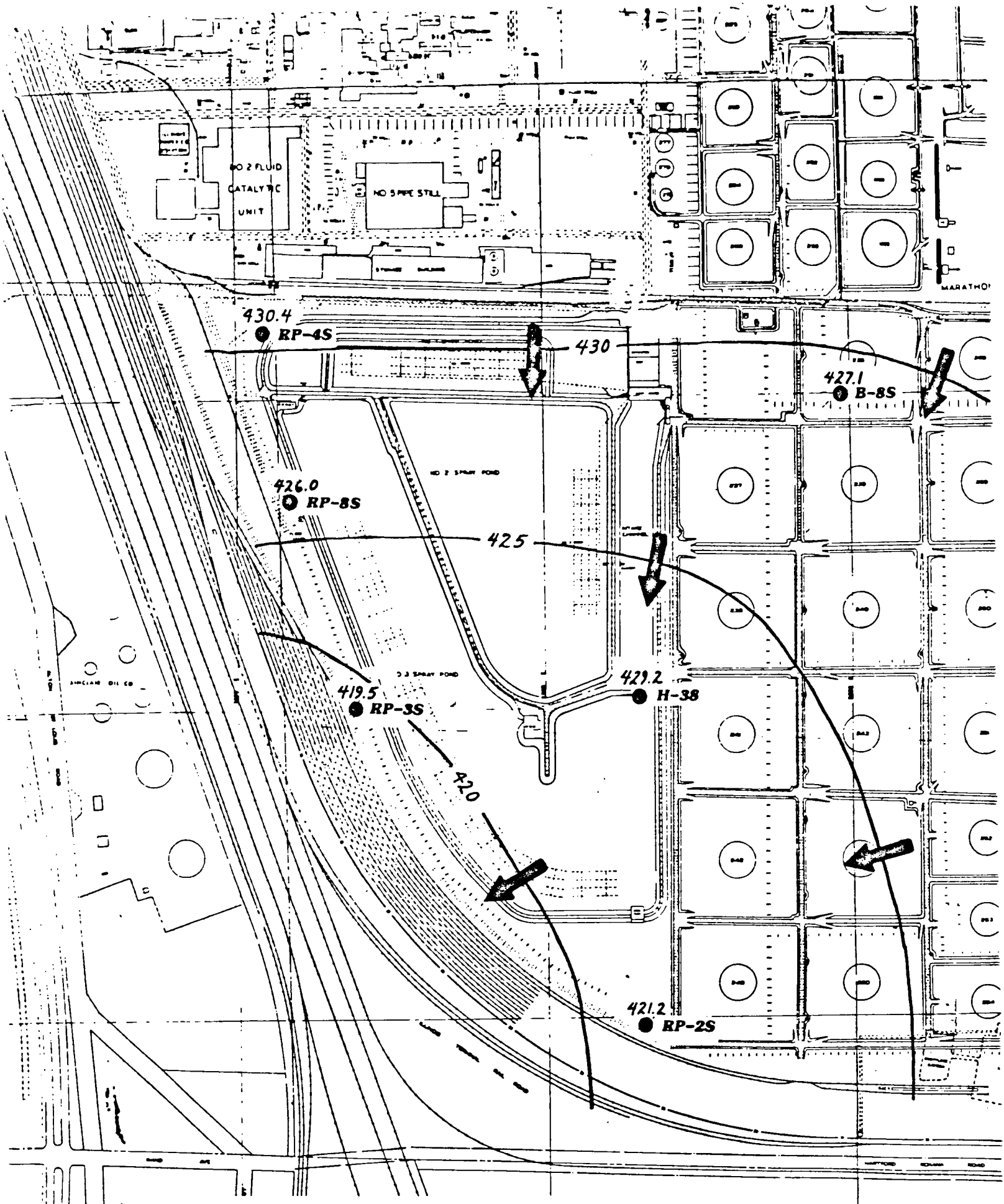
M. S. Johnson

MSJ:mph
85212ART0266
Attachments

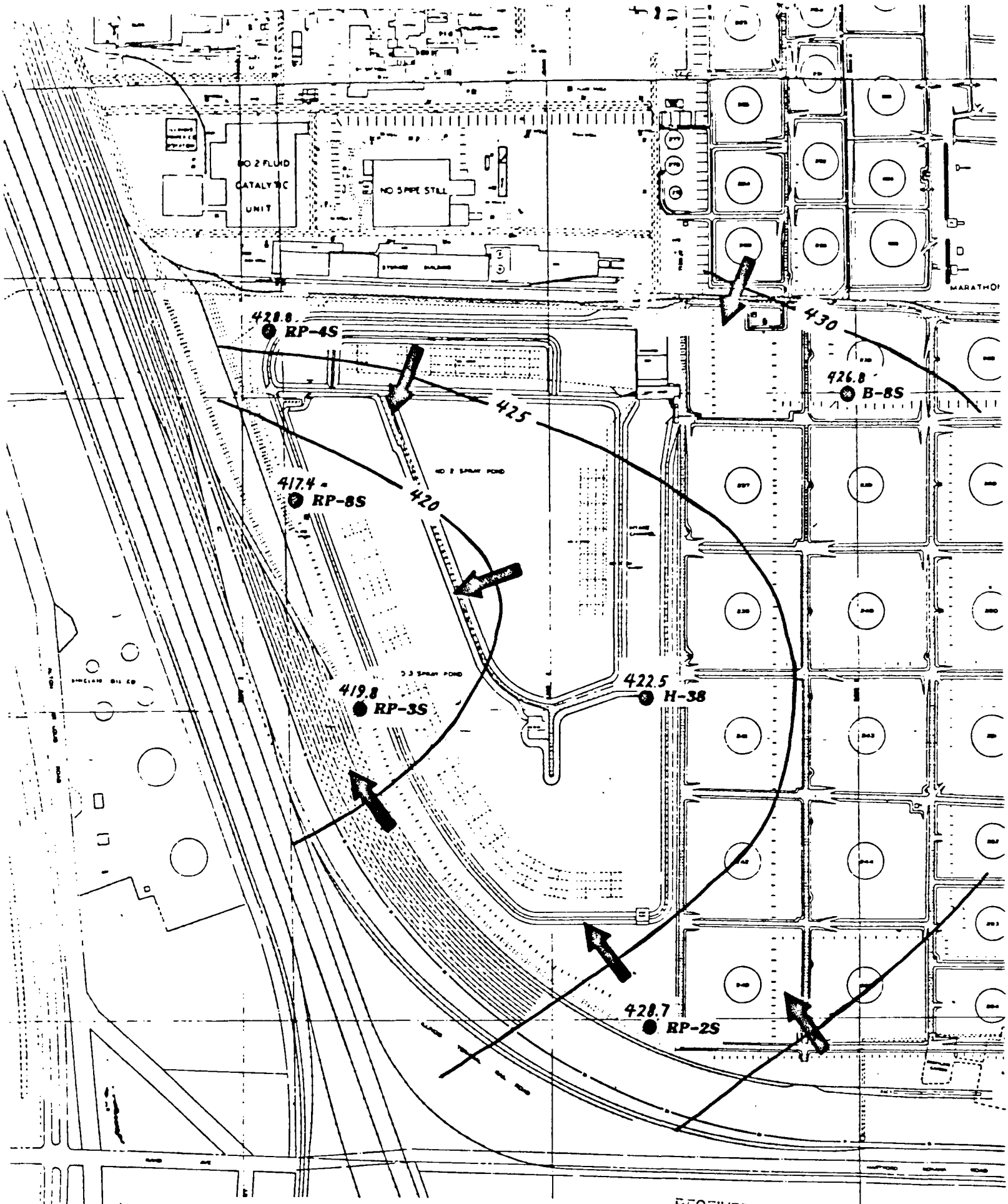
cc: J. G. Huddle, Chicago
J. A. Lamping, Chicago
R. A. Sumner, Wood River
G. W. Schmidt, Tulsa



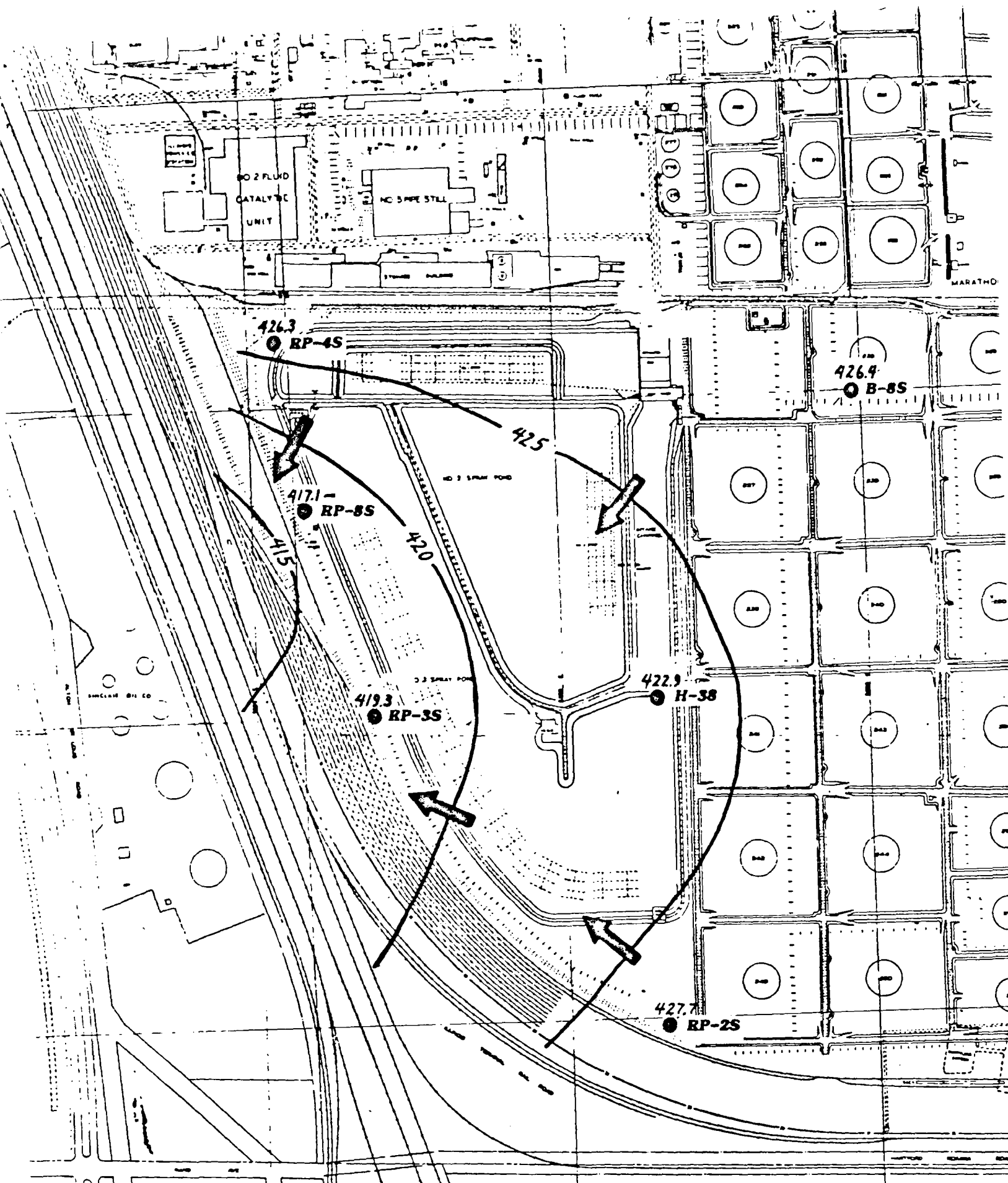
Approximate contour map of the upper water table in the spray pond area, 2-20-85



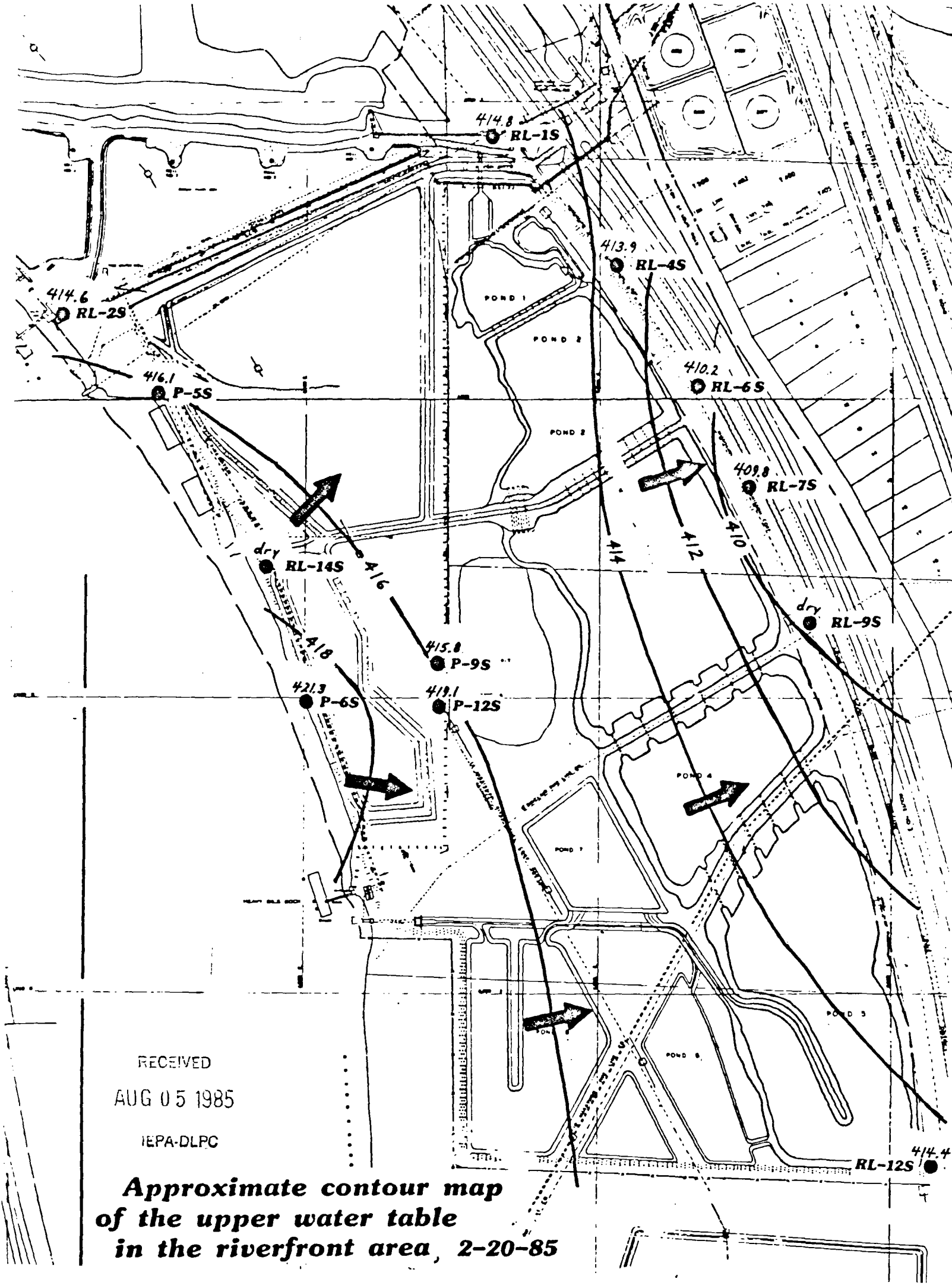
Approximate contour map of the upper water table in the spray pond area, 3-26-85



Approximate contour map of the upper water table in the spray pond area, 6-24-85



Approximate contour map of the upper water table in the spray pond area, 7-24-85



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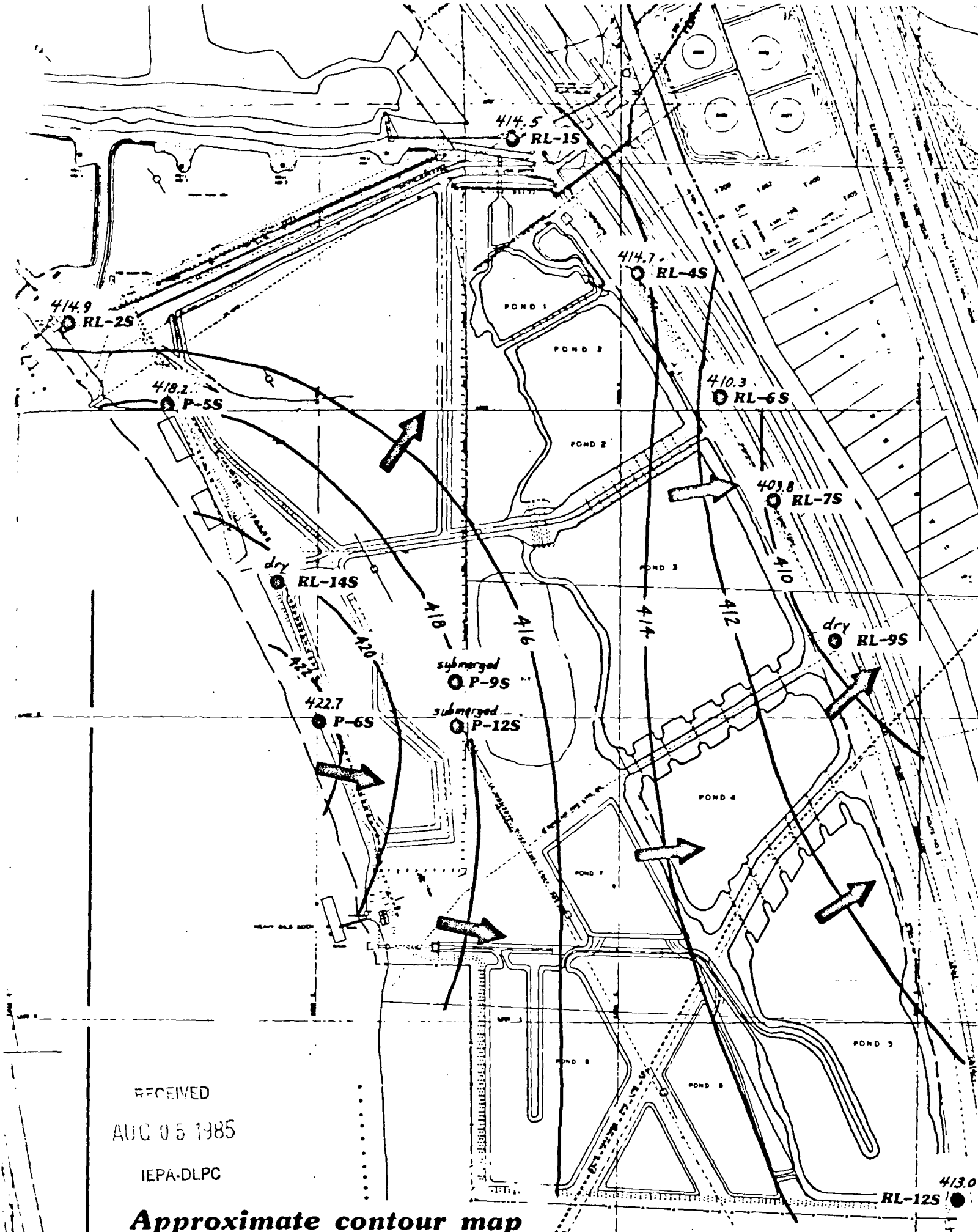
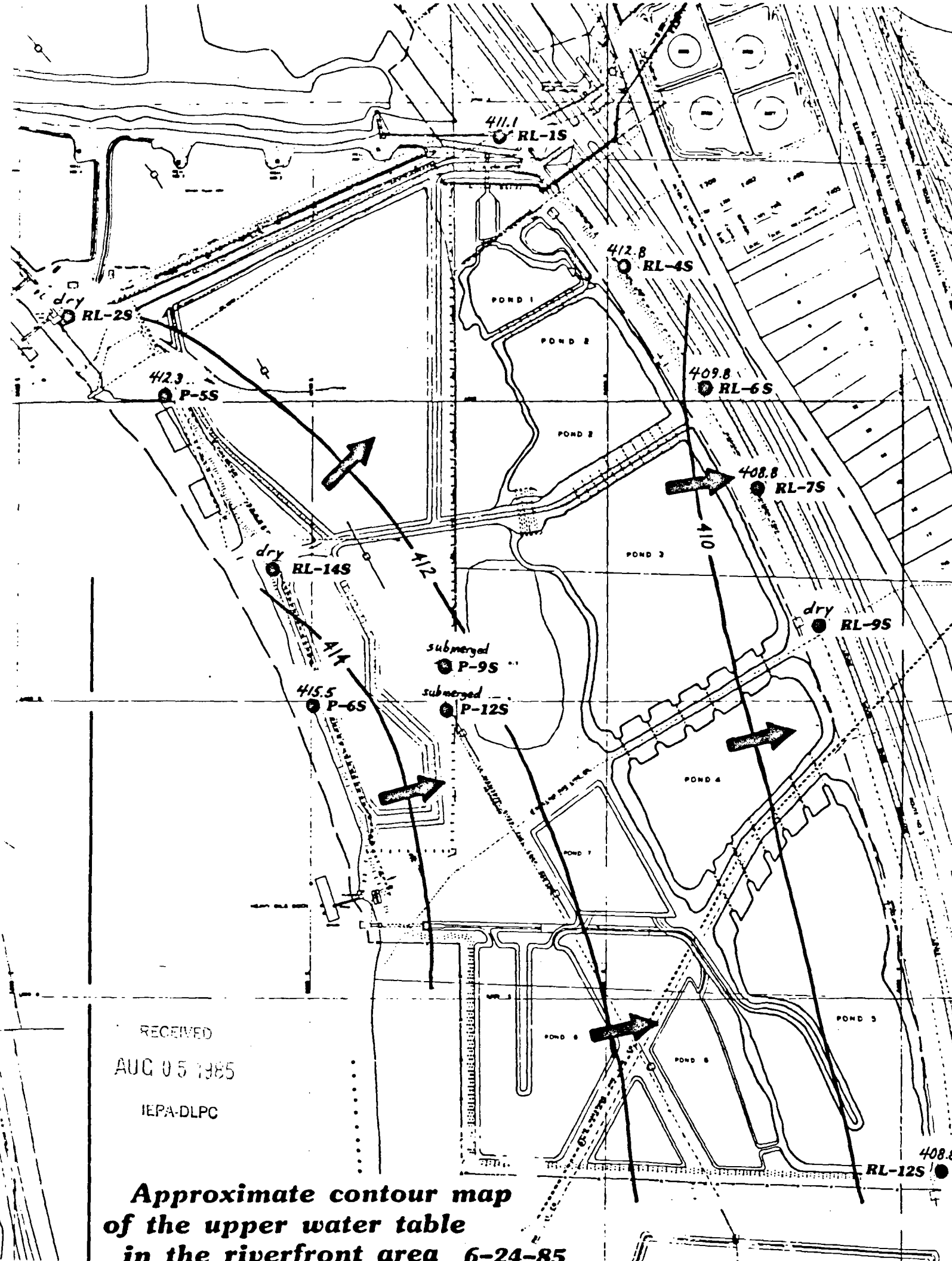
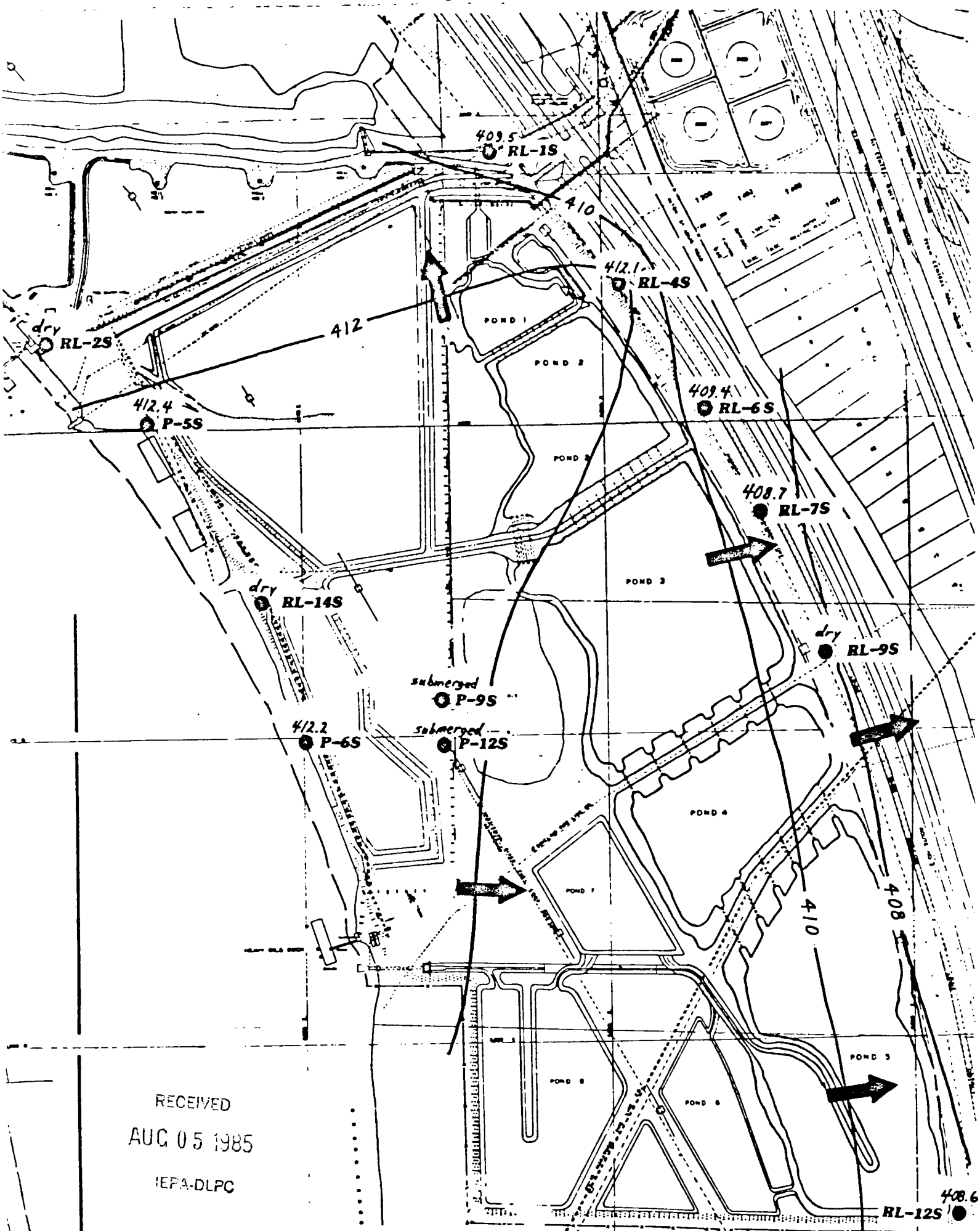
Approximate contour map of the upper water table in the riverfront area, 2-20-85



Approximate contour map of the upper water table in the riverfront area, 3-26-85



Approximate contour map of the upper water table in the riverfront area, 6-24-85



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Approximate contour map of the upper water table in the riverfront area, 7-24-85